Data-based Decision Making in Education

STUDIES IN EDUCATIONAL LEADERSHIP

VOLUME 17

SCOPE OF THE SERIES

Leadership we know makes all the difference in success or failures of organizations. This series will bring together in a highly readable way the most recent insights in successful leadership. Emphasis will be placed on research focused on pre-collegiate educational organizations. Volumes should address issues related to leadership at all levels of the educational system and be written in a style accessible to scholars, educational practitioners and policy makers throughout the world.

The volumes – monographs and edited volumes – should represent work from different parts in the world.

For further volumes:
http://www.springer.com/series/6543

Kim Schildkamp · Mei Kuin Lai · Lorna Earl
Editors

Data-based Decision Making in Education

Challenges and Opportunities

Springer

Editors
Kim Schildkamp
Faculty of Behavioural Sciences
University of Twente
Enschede
The Netherlands

Lorna Earl
Aporia Consulting Ltd.
Toronto, ON
Canada

Mei Kuin Lai
Woolf Fisher Research Centre
School of Curriculum and Pedagogy
The University of Auckland
Auckland
New Zealand

Printed on acid-free paper

Contents

About the Authors

Elizabeth Archer PhD is currently a specialist in Institutional Research at the University of South Africa. Elizabeth was previously employed as a researcher and project coordinator at the Centre for Evaluation and Assessment at the University of Pretoria. She is a qualified Educational Psychologist with a PhD in Assessment and Quality Assurance. She has spent a number of years conducting research in Primary and Secondary education with School Performance Feedback Systems. Elizabeth's research focussed on designing and developing a feedback system that facilitates appropriate data use in the South African context. She has published and presented papers relating to data use in South Africa, New Zealand, The Netherlands, Mauritius, Cyprus and Malaysia.

Christopher Downey is a Lecturer in Education at the University of Southampton. Chris graduated in Chemistry from the University of London and, after working in the chemical industry for a few years, trained as a secondary science teacher. He taught science in secondary schools in the South of England for 12 years gaining experience of school leadership as a Head of Department and as an Assistant Head teacher. His current research interests span fields related to educational improvement and effectiveness, particularly the area of data use in and for schools. He recently co-authored a book on using effectiveness data for school improvement (Routledge) with Anthony Kelly.

Robert Dunn has been a Superintendent of Schools for the past 10 years, responsible for schools from Kindergarten to grade 12. In that work, he has supported in the establishment of effective Learning Networks among schools as well as in building the capacity of school administrators to create an evidence-informed improvement process which includes a significant monitoring component. For 4 years, he was the chair of the Toronto Region Professional Network Centre as well as being the Lead for the implementation of the Managing Information for Student Achievement for the York Region District School Board. He is also a principal of Compass for Success, an innovative application designed to manage data and to engage schools in using data for creating School Improvement Plans. The platform is an interactive one which houses all of the school board and provincial data on students. It also has a significant capacity building element with training modules on using data to impact

student achievement. This application has been adopted by over 24 school districts and First Nations bands in Ontario, Canada.

Melanie Ehren PhD is an assistant professor, working on research into effects and unintended consequences of standards-based school reform, accountability systems and school inspections on school improvement and teaching and learning in schools. Her research started with a Ph.D. on effects of school inspections. In this research, she used novel techniques, such as a policy theory evaluation, to reconstruct the assumptions on effects of school inspections. Her paper on 'The Relationship between School Inspections, School Characteristics and School Improvement', co-authored by Adrie Visscher, was placed on the 2010 highest cited article list of the British Journal of Educational Studies. Melanie Ehren participated in the International Project for the Study of Educational Accountability Systems (IPEA) and has studied the effectiveness of accountability systems and external evaluations on school improvement in many different countries and contexts. She was part of the OECD expert team reviewing the Evaluation and Assessment in Education in Luxembourg; she studied the effects of different types of accountability measures (e.g. quality reviews) in New York City as part of a visiting scholarship at Columbia University. She has worked as a visiting scholar at Harvard University (sponsored by the Spencer foundation) and also coordinates a 3-year EU-project on the impact of school inspections on school improvement in eight European countries.

Sarah Howie PhD is the Director of the Centre for Evaluation and Assessment and Full Professor in the Department of Science, Mathematics and Technology Education at the University of Pretoria. She has been working in the field of evaluation and assessment in education for nearly 20 years, during this time she has published widely internationally and has worked across Africa, Asia and Europe, conducting research and development projects and activities related to educational research in evaluation and assessment. She serves as a national research coordinator for a number of international comparative studies of student achievement including TIMSS 1995 and 1999, PIRLS 2006 and 2011. She also serves as a member of the International Association for the Evaluation of Educational Achievement's questionnaire development group for PIRLS 2011 and a member of the Progress in International Student Assessment's (PISA 2015) extended expert group.

Sonia Ben Jaafar PhD is the director of EduEval Educational Services, a professional services company in the United Arab Emirates serving the Middle East, North Africa and Asia to promote sustainable successful student learning. She integrates applied research and evaluation for educational improvement and effectiveness at all levels in the system. Sonia's international work in the private, public and NGO sectors focus on using evidence-informed decision-making from the classroom to the boardroom. Her clients include Promethean, The Nielsen Company, the Knowledge and Human Development Authority in Dubai and the Aga Khan Foundation. Sonia holds a PhD in Education Administration and an MA in Curriculum, Teaching and Learning from the University of Toronto. She also holds a BEd specialized in Science Education and a BSc in Biochemistry from the University of British Columbia.

Steven Katz PhD is a director with the research and evaluation firm Aporia Consulting Ltd and a permanent faculty member in Human Development and Applied Psychology at the Ontario Institute for Studies in Education of the University of Toronto, where he is the coordinator of the Psychology of Learning and Development teacher education program component. Dr. Katz has a doctorate in human development and applied psychology, with a specialization in applied cognitive science. His areas of expertise include cognition and learning, teacher education, networked learning communities and the design of data-driven systems for organizational accountability, planning and improvement. He has received the Governor General's medal for excellence in his field, and has been involved in research and evaluation, professional development and consulting with a host of educational organizations around the world.

Anthony Kelly PhD is a Professor of Education at the University of Southampton, researching in the areas of policy and improvement/effectiveness theory, innovative practice in educational management, governance and policy analysis, adapting capability and game theoretic concepts to education and developing innovative quantitative approaches. His most recent books are on the use of game theory in decision-making (Cambridge University Press), conceptualising a theory of intellectual capital for use in schools (Kluwer) and adapting Sen's capability theory to school choice (Palgrave Macmillan).

Karen Seashore Louis PhD is a Regents Professor and the Robert H. Beck Chair at the University of Minnesota. She has also served as the Director of the Center for Applied Research and Educational Improvement at the University of Minnesota, Department Chair and Associate Dean of the College of Education and Human Development. Her research focuses on school improvement and reform, leadership in school settings, and the politics of knowledge use in education. Recent books include *Organizing for School Change* (2006), *Aligning Student Support with Achievement Goals: The Secondary School Principal's Guide* (with Molly Gordon 2006), *Professional Learning Communities: Divergence, Depth and Dilemmas* (with Louise Stoll 2007), *Building strong school cultures: A guide to leading change* (with Sharon Kruse 2009), *Linking Leadership to Student Learning* (with Kenneth Leithwood, in press) and *Educational Policy: Political Culture and Its Effects* (in preparation). She is a Fellow of the American Educational Research Association, where she also served as the President of Division A (Educational Administration). In 2007, she received the lifetime Contributions to Staff Development award from the National Staff Development Association, and was the recipient of the Campbell Lifetime Achievement Award from the University Council for Educational Administration in 2009.

Stuart McNaughton PhD, ONZM is Professor of Education and Director of the Woolf Fisher Research Centre at The University of Auckland. His research interests are in literacy and language development, the design of effective educational programmes for culturally and linguistically diverse populations and cultural processes in development. His publications incorporate research on children's development through family and school literacy practices, interventions in early childhood and

schools' settings and research and development models in large scale interventions with schools. He has chaired national groups providing advice to the New Zealand Government on literacy goals and has contributed to the development of national educational assessments and resources. He consults on the design of curricula and educational interventions nationally and internationally.

Vanessa Scherman PhD joined the University of Pretoria in 2002 and is currently working in the Department of Educational Psychology as well as the Centre for Evaluation and Assessment. She has been involved in a number of projects within the Centre, such as Secondary Education in Africa funded by the World Bank, investigating inequalities in three primary schools funded by UNICEF and conducting secondary analysis of the Trends in Mathematics and Science Study (TIMSS) 1999 and 2003 data. She coordinates the South Africa Netherlands Research Programme on Alternatives in Development funded value-added assessment programme, and is involved in international projects such as the Second Information Technology in Education Study as well as the Progress in International Reading Literacy Study (PIRLS). She has published in National and International journals in the areas of school effectiveness and psychometrics.

Daniel Spikes is a fourth-year doctoral student in the Educational Policy and Planning Program in the Department of Educational Administration at The University of Texas at Austin. Prior to pursuing his doctoral degree, he was a seventh-grade Language Arts teacher and a high school assistant principal. Since entering the program, he has served as a graduate research assistant and now works full time for Pre-College Academic Readiness Programs in the Division of Diversity and Community Engagement at The University of Texas at Austin.

Prof. Dr. Martin Valcke is head of the Department of Educational Studies at Ghent University, Belgium. His research field is the innovation of higher education and performance indicator studies.

Jan Vanhoof PhD is partly as an assistant professor and partly as a post-doctoral researcher on the staff of the Institute of Education and Information of the University of Antwerp. His current research activities focus on school policy and quality care, in general, and on school self-evaluation and data use in schools, in particular.

Prof. Dr. Peter Van Petegem is full professor at the Institute of Education and Information Sciences of the University of Antwerp, Belgium. His research interests are education and school policies and environmental education.

Goedele Verhaeghe PhD has completed her PhD at the Department of Educational Studies at the Ghent University (Belgium). Her dissertation research concerns design and implementation issues of School Performance Feedback Systems.

Michael R. Volonnino is a doctoral candidate at The University of Texas at Austin in Education Policy and Planning. His current research focuses on human capital policies to develop and support teachers, the use of technology in K-12 education,

and higher education productivity. To his research projects, he brings his experience as a former public high school teacher in New Jersey.

Jeffrey C. Wayman PhD is an assistant professor at The University of Texas at Austin. His teaching and research interests focus on the effective use of data for school improvement. Dr. Wayman's research on data-based decision-making includes efficient structures for creating data-informed school districts, software that delivers student data to educators, effective leadership for data use, and systemic supports that enable widespread teacher use of student data. Dr. Wayman's current research project is a 3-year study funded by The Spencer Foundation titled 'The Data-Informed District: Implementation and Effects of a District-Wide Data Initiative'. In this project, Dr. Wayman and his research team are working with three districts to help them become 'Data-Informed Districts'.

In 2008, Dr. Wayman received the Jack A. Culbertson award from the University Council for Educational Administration. This award is given to a junior professor for significant contributions to the field of educational administration. Prior to joining the UT faculty, Dr. Wayman worked at Johns Hopkins University with the Center for Social Organization of Schools, at Colorado State University in the area of prevention research, and as a junior high math teacher in Kansas City and Salt Lake City.

About the Editors

Lorna Earl PhD is a Director, Aporia Consulting Ltd and the current President of the International Congress of School Effectiveness and School Improvement. She recently retired from a position as Associate Professor in the Theory and Policy Studies Department and as Head of the International Centre for Educational Change at the Ontario Institute for Studies in Education/UT, and is currently a part-time Professor at The University of Auckland. Lorna has worked for over 30 years in schools, school boards, ministries of education and universities. As a leader in the field of assessment and evaluation, she has been involved in consultation, research, evaluation and staff development with teachers' organizations, ministries of education, school boards and charitable foundations in Canada, England, Australia, New Zealand, Europe and the United States. She is a prolific author and has written books, chapters and articles about assessment, using data for decision-making, evaluation methods, knowledge mobilization, educational change and networking for school improvement. Throughout her career, she has concentrated her efforts on issues related to evaluation of large-scale reform and assessment (large-scale and classroom) in many venues around the world.

Mei Kuin Lai PhD is Associate Director of the Woolf Fisher Research Centre (The University of Auckland), a research centre recognised as one of New Zealand's most successful in improving educational results for children from diverse communities. Mei's research over the last decade has focused on using data as part of research and development interventions to improve teaching and school practices and raise student achievement. Mei has extensive experience as a leader of research and development projects. Most recently, she co-led a national evaluation into schools' capability to evaluate their own functioning. She has also led or co-led several large-scale projects on improving and sustaining student's literacy achievement across a variety of contexts, from high poverty multi-cultural schools to rural primary and high schools. Over the last decade, she has worked with schools, boards of trustees, Ministry of Education, and teacher's organizations to support them use data. She has also been a consultant for the New Zealand Ministry of Education, most recently, consulting on the implementation of the New Zealand National Standards in Reading, Writing and Mathematics. Her co-authored book 'Practitioner Research For Educators' was

nominated for the prestigious 'American Association of Colleges for Teacher Education' Outstanding Book Award for books that make a significant contribution to the knowledge base of teacher education or of teaching and learning with implications for teacher education. The book was also a bestseller (Top 10 in 2006).

Kim Schildkamp PhD is an associate professor at the Faculty of Behavioural Sciences at the University of Twente. In 2007, she obtained her PhD on school self-evaluation. She is the recipient of several awards, including an American Educational Research Association (AERA) award and a Fulbright scholarship. She used the latter to conduct a study into 'The utilization and impact of a school performance feedback system used in Louisiana', at the Louisiana State University, in cooperation with the Louisiana Department of Education (LDE). Kim's research, in the Netherlands but also in other countries, focuses on 'data-based decision making for teacher, curriculum and school development'. For example, she participates in the EU Comenius project 'Using data for improving school and student performance', a collaborative project between The Netherlands, Poland, Lithuania, Germany and the UK. She has been invited as a guest lecturer and keynote speaker at several conferences and universities, including AERA, the University of Pretoria in South Africa and The University of Auckland in New Zealand. She is a board member of the International Congress for School Effectiveness and Improvement (ICSEI) and founder and chair of the ICSEI data-use network. She published several articles on the use of data, such as the use of school self-evaluation results, the use of performance feedback and the use of data in data teams.